This document provides pertinent information concerning the reissuance of the VPDES Permit listed below. This permit is being processed as a Minor, Municipal permit. The discharge results from the operation of a 0.006 MGD wastewater treatment plant. This permit action consists of updating the proposed effluent limits to reflect the current Virginia Water Quality Standards, effective 6 January 2011 and updating permit language as applicable. The effluent limitations and special conditions contained in this permit will maintain the Water Quality Standards of 9VAC25-260 et seq.

1. Facility Name and Mailing Address:	Gunston Elementary School WWTP 5025 Sideburn Road Fairfax, VA 22032	SIC Code:	4952 – Wastewater Treatment Plant
Facility Location:	10100 Gunston Road Lorton, VA 22079	County:	Fairfax
Facility Contact Name:	Mark LaCroix Environmental Engineer	Telephone Number:	703-764-4388
2. Permit No.:	VA0023299	Expiration Date:	29 June 2012
Other VPDES Permits:	Not Applicable		
Other Permits:	Not Applicable		
E2/E3/E4 Status:	Not Applicable		
3. Owner Name:	Fairfax County Schools		
Owner Contact/Title:	Mark LaCroix Environmental Engineer	Telephone Number:	703-764-4388
4. Application Complete Date:	19 January 2012		
Permit Drafted By:	Douglas Frasier	Date Drafted:	16 April 2012
Draft Permit Reviewed By:	Alison Thompson	Date Reviewed:	23 April 2012
WPM Review By:	Bryant Thomas	Date Reviewed:	27 April 2012
Public Comment Period:	Start Date: 10 May 2012	End Date:	8 June 2012
5. Receiving Waters Information:	See **Attachment 1** for the Flow Frequency Determination. *		
Receiving Stream Name:	South Branch Massey Creek	Stream Code:	1aSOM
Drainage Area at Outfall:	0.09 square miles**	River Mile:	1.23
Stream Basin:	Potomac River	Subbasin:	Potomac River
Section:	7	Stream Class:	III
Special Standards:	b	Waterbody ID:	VAN-A25R
7Q10 Low Flow:	0.0 MGD	7Q10 High Flow:	0.0 MGD
1Q10 Low Flow:	0.0 MGD	1Q10 High Flow:	0.0 MGD
30Q10 Low Flow:	0.0 MGD	30Q10 High Flow:	0.0 MGD
Harmonic Mean Flow:	0.0 MGD	30Q5 Flow:	0.0 MGD
303(d) Listed:	Yes – Downstream, Occoquan Bay is impaired for polychlorinated biphenyl (PCB) and nutrient enrichment.		
TMDL Approved:	Yes – PCB TMDL No – Benthic TMDL (expected 2018)	Date TMDL Approved:	31 October 2007

*The Flow Frequency Determination does indicate a statistically generated flow for the receiving stream under low flow conditions. However, it is staff's best professional judgement, based upon the minimal drainage area at the point of discharge (0.09 square miles), the distance from the headwaters to the discharge point (0.6 miles) and the physical observation of the receiving stream during the site visit, the stream provides essentially little to no mixing during critical conditions. Therefore, limitations in this permit have been established based upon critical 7Q10, 1Q10 and 30Q10 flows of 0.0 MGD to ensure protection of existing uses at all times.

Updated from the Planning Statement – see **Attachment 5.

6. **Statutory or Regulatory Basis for Special Conditions and Effluent Limitations:**

✓	State Water Control Law	___	EPA Guidelines
✓	Clean Water Act	✓	Water Quality Standards
✓	VPDES Permit Regulation	___	Other:
✓	EPA NPDES Regulation		

7. **Licensed Operator Requirements:** Class III

8. **Reliability Class:** Class II

9. **Permit Characterization:**

___	Private	✓	Effluent Limited	___	Possible Interstate Effect
___	Federal	✓	Water Quality Limited	___	Compliance Schedule Required
___	State	___	Toxics Monitoring Program Required	___	Interim Limits in Permit
✓	POTW	___	Pretreatment Program Required	___	Interim Limits in Other Document
___	TMDL				

10. **Wastewater Sources and Treatment Description:**

This facility serves an elementary school in Fairfax County with an estimated population of 500 students and faculty. Due to the type of system in place and the population served, this discharge is not continuous and typically there are no flows during the summer months (mid-June to early September).

The current system consists of a septic tank, dosing tank, rotating arm sand filter, aerated media tank, chlorination and dechlorination prior to discharge. The aerated media tank was the result of an upgrade for the removal of nitrogen. This tank also has separate compartments for sludge holding, clarification, sludge return and post aeration.

Fairfax County Schools entered a Special Order by Consent in June 2010 due to effluent limitation excursions (see Section 27). The facility is preparing to make further upgrades to the system. The upgrades include removing the sand filter, installation of an equalization tank, tertiary filtration and replacing the chlorination unit with ultraviolet (UV) light for disinfection. Completion of this project is expected in the summer of 2013.

See **Attachment 2** for a facility schematic/diagram.

TABLE 1
OUTFALL DESCRIPTION

Number	Discharge Sources	Treatment	Design Flow	Latitude / Longitude
001	Domestic Wastewater	See Item 10 above.	0.006 MGD	38° 41′ 00″ / 77° 12′ 44″
See **Attachment 3** for Fort Belvoir topographic map.				

11. **Sludge Treatment and Disposal Methods:**

There is no sludge treatment at this facility, storage only. Sludge is pumped and hauled by a licensed contractor to the Noman M. Cole Pollution Control Plant (VA0025364) for further treatment and final disposal.

12. Discharges and Monitoring Stations within waterbody VAN-A25R:

TABLE 2 DISCHARGES & MONITORING STATIONS			
ID / Permit Number	Facility Name	Type	Receiving Stream
VA0090026	Kim Young STP	Municipal	Thompsons Creek, UT
VA0027855	Woodbridge Mobile Home Park STP		Marumsco Creek, UT
VA0024724	Dale Service Corp. – Section 1		Neabsco Creek, UT
VA0024678	Dale Service Corp. – Section 8		Neabsco Creek
VAG110085	Virginia Concrete Company – Lorton	Concrete General Permit	Giles Run, UT
VAG110083	Virginia Concrete Company – Woodbridge		Occoquan River
VAG406104	Belmont Bay Associates	Single Family Home General Permit	Belmont Bay
VAG406093	Allen Marie Residence		
VAG840101	Vulcan Construction Materials – Graham	Nonmetallic Mineral Mining General Permit	Occoquan River, UT Little Occoquan Run, UT
VAR051081	Rainwater Landfill	Stormwater Industrial General Permit	Giles Run, UT
VAR051079	Lorton CDD Landfill		Giles Run, UT
VAR051939	American Auto Salvage		Marumsco Creek, UT
VAR051083	Owen and Sparrow LLC		Giles Run
VAR051006	AAAACO Auto Parts, Inc.		Giles Run
VAR051076	Interstate 95 Landfill		Giles Run
VAR051811	Davis Industries		Giles Run
VAR051477	First Transit Inc.		Neabsco Creek
VAR051939	American Auto Salvage		Marumsco Creek, UT
VAR052014	Double T Automotive Inc.		Cow Branch
VAR051071	Covanta Fairfax Inc.		Giles Run
1aOCC002.47	DEQ ambient water quality monitoring station		Occoquan Bay

13. Material Storage:

TABLE 3 MATERIAL STORAGE		
Materials Description	Volume Stored	Spill/Stormwater Prevention Measures
Soda Ash	40 lb. bag	Under roof in utility building
Chlorination Tablets*	One five (5) gallon bucket	
Sodium disulfide (dechlorination tablets)*	One five (5) gallon bucket	
*These chemicals will not be kept on site after the upgrades are completed in 2013.		

14. Site Inspection: Performed by DEQ-NRO staff on 16 April 2012 (see **Attachment 4**).

15. Receiving Stream Water Quality and Water Quality Standards:

a. Ambient Water Quality Data

There is no DEQ monitoring data available for South Branch Massey Creek. The nearest water quality monitoring station is 1aOCC002.47; located in Occoquan Bay, approximately 3.8 miles downstream from Outfall 001.

Downstream impairments for Fish Consumption Use and Aquatic Life Use have been noted due to polychlorinated biphenyls (PCBs) and possible nutrient enrichment, respectively.

The PCB TMDL has been developed and was approved by the Environmental Protection Agency (EPA) on 31 October 2007. Even though the TMDL did not include the receiving stream, all upstream facilities were taken into account during the development of the TMDL. This facility was not assigned a wasteload allocation under this TMDL since it is not a likely source of the pollutant.

The Benthic TMDL is expected by 2018 for the Aquatic Life Use impairment.

The full planning statement is found in **Attachment 5**.

b. Receiving Stream Water Quality Criteria

Part IX of 9VAC25-260(360-550) designates classes and special standards applicable to defined Virginia river basins and sections. The receiving stream, South Branch Massey Creek, is located within Section 7 of the Potomac River Basin and designated as Class III water.

At all times, Class III waters must achieve a dissolved oxygen (D.O.) of 4.0 mg/L or greater, a daily average D.O. of 5.0 mg/L or greater, a temperature that does not exceed 32° C and maintain a pH of 6.0 – 9.0 standard units (S.U.).

Attachment 6 details other water quality criteria applicable to the receiving stream.

Ammonia:

The fresh water, aquatic life Water Quality Criteria for ammonia is dependent on the instream and/or the effluent temperature and pH values. The 90th percentile temperature and pH values are used because they best represent the critical conditions of the receiving stream. Ambient water quality data for the receiving stream is not available and it is staff's best professional judgement that the critical 30Q10 flow is essentially 0.0 MGD; therefore, staff used effluent pH data obtained from July 2007 to January 2012 Discharge Monitoring Reports. A default summer temperature of 25° C and an assumed winter temperature of 15° C were utilized.

The ammonia water quality standards calculations are shown in **Attachment 6**.

Metals Criteria:

The Water Quality Criteria for some metals are dependent on the receiving stream and/or effluent hardness values (expressed as mg/L calcium carbonate). There is no hardness data for this facility or the receiving stream. Staff guidance suggests using a default hardness value of 50 mg/L $CaCO_3$ for streams east of the Blue Ridge.

The hardness-dependent metals criteria in **Attachment 6** are based on this default value.

Bacteria Criteria:

The Virginia Water Quality Standards 9VAC25-260-170.A state that the following criteria shall apply to protect primary recreational uses in surface waters:

E. coli bacteria per 100 mL of water shall not exceed a monthly geometric mean of the following:

	Geometric Mean[1]
Freshwater *E. coli* (N/100 mL)	126

[1]For a minimum of four weekly samples taken during any calendar month

c. Receiving Stream Special Standards

The State Water Control Board's Water Quality Standards, River Basin Section Tables (9VAC25-260-360, 370 and 380) designates the river basins, sections, classes and special standards for surface waters of the Commonwealth of Virginia. The receiving stream, South Branch Massey Creek, is located within Section 7 of the Potomac River Basin. This section has been designated with a special standard of "b".

Special Standard "b" (Potomac Embayment Standards) established effluent standards for all sewage plants discharging into Potomac River embayments and for expansions of existing plants discharging into non-tidal tributaries of these embayments. 9VAC25-415, Policy for the Potomac Embayments controls point source discharges of conventional pollutants into the Virginia embayment waters of the Potomac River, and their tributaries, from the fall line at Chain Bridge in Arlington County to the Route 301 bridge in King George County. The regulation sets forth effluent limits for BOD_5, total suspended solids, phosphorus and ammonia to protect the water quality of these high profile waterbodies.

The Potomac Embayment Standards are not applicable to this discharge since the design flow is less than 0.05 MGD and it is not expanding during the upgrade (9VAC25-415-30.B.).

d. Threatened or Endangered Species

The Virginia DGIF Fish and Wildlife Information System Database was searched on 16 February 2012 for records to determine if there are threatened or endangered species in the vicinity of the discharge. The following threatened or endangered species were identified within a 2 mile radius of the discharge: Brook Floater (mussel); Wood Turtle; Upland Sandpiper (song bird); Loggerhead Shrike (song bird); Henslow's Sparrow; Appalachian Grizzled Skipper (butterfly); Bald Eagle; and Migrant Loggerhead Shrike (song bird). The limits proposed in this draft permit are protective of the Virginia Water Quality Standards and protect the threatened and endangered species found near the discharge.

The stream that the facility discharges to is within a reach identified as having an Anadromous Fish Use. It is staff's best professional judgment that the proposed limits are protective of this use.

16. Antidegradation (9VAC25-260-30):

All state surface waters are provided one of three levels of antidegradation protection. For Tier 1 or existing use protection, existing uses of the water body and the water quality to protect these uses must be maintained. Tier 2 water bodies have water quality that is better than the water quality standards. Significant lowering of the water quality of Tier 2 waters is not allowed without an evaluation of the economic and social impacts. Tier 3 water bodies are exceptional waters and are so designated by regulatory amendment. The antidegradation policy prohibits new or expanded discharges into exceptional waters.

Given that the 1974 mathematical model (**Attachment 10**) is based on water quality standards being met in the receiving stream and that the stream provides essentially little to no mixing during critical conditions (Section 5); it is staff's best professional judgement that the South Branch Massey Creek be classified as Tier 1. The proposed permit limits have been established by determining wasteload allocations which will result in attaining and/or maintaining all water quality criteria which apply to the receiving stream, including narrative criteria. These wasteload allocations will provide for the protection and maintenance of all existing uses.

17. Effluent Screening, Wasteload Allocation, and Effluent Limitation Development:

To determine water quality-based effluent limitations for a discharge, the suitability of data must first be determined. Data is suitable for analysis if one or more representative data points are equal to or above the quantification level ("QL") and the data represent the exact pollutant being evaluated.

Next, the appropriate Water Quality Standards (WQS) are determined for the pollutants in the effluent. Then, the Wasteload Allocations (WLAs) are calculated. In this case since the critical flows 7Q10, 1Q10 and 30Q10 have been determined to be zero, the WLAs are equal to the WQS. The WLA values are then compared with available effluent data to determine the need for effluent limitations. Effluent limitations are needed if the 97th percentile of the daily effluent concentration values is greater than the acute wasteload allocation or if the 97th percentile of the four-day average effluent concentration values is greater than the chronic wasteload allocation. Effluent limitations are based on the most limiting WLA, the required sampling frequency and statistical characteristics of the effluent data.

a. Effluent Screening

Effluent data obtained from the permit application and the July 2007 – January 2012 Discharge Monitoring Reports has been reviewed and determined to be suitable for evaluation.

b. Mixing Zones and Wasteload Allocations (WLAs)

Wasteload allocations (WLAs) are calculated for those parameters in the effluent with the reasonable potential to cause an exceedance of water quality criteria. The basic calculation for establishing a WLA is the steady state complete mix equation:

$$WLA = \frac{C_o [Q_e + (f) (Q_s)] - [(C_s) (f) (Q_s)]}{Q_e}$$

Where:
- WLA = Wasteload allocation
- C_o = In-stream water quality criteria
- Q_e = Design flow
- Q_s = Critical receiving stream flow (1Q10 for acute aquatic life criteria; 7Q10 for chronic aquatic life criteria; harmonic mean for carcinogen-human health criteria; 30Q10 for ammonia criteria; and 30Q5 for non-carcinogen human health criteria)
- f = Decimal fraction of critical flow
- C_s = Mean background concentration of parameter in the receiving stream.

The water segment receiving the discharge via Outfall 001 is considered to have a 7Q10, 1Q10 and 30Q10 of 0.0 MGD. As such, there is no mixing zone and the WLA is equal to the C_o.

c. Effluent Limitations, Outfall 001 – Toxic Pollutants

9VAC25-31-220.D. requires limits be imposed where a discharge has a reasonable potential to cause or contribute to an in-stream excursion of water quality criteria. Those parameters with WLAs that are near effluent concentrations are evaluated for limits.

The VPDES Permit Regulation at 9VAC25-31-230.D. requires that monthly and weekly average limitations be imposed for continuous discharges from POTWs and monthly average and daily maximum limitations be imposed for all other continuous non-POTW discharges.

1). Ammonia as N:

Staff reevaluated pH and temperature to determine ammonia water quality criteria, wasteload allocations (WLAs) and subsequent ammonia limits (**Attachment 7**). DEQ guidance suggests using a sole data point of 9.0 mg/L for discharges containing domestic sewage to ensure the evaluation adequately addresses the potential for ammonia to be present. As stated earlier, this is an intermittent discharge and of short duration; therefore, staff utilized the acute criteria only to ascertain the proposed ammonia limitation.

The calculated ammonia limit of 14.4 mg/L is less stringent than the current 12 mg/L limitation. 9VAC25-31-220.L., does not allow for less stringent effluent limitations than those present in the previous permit; therefore, the current limitation will be carried forward with this reissuance. See **Attachment 8** for limit derivation.

2). Total Residual Chlorine:

Chlorine is used for disinfection and is potentially in the discharge. Staff calculated WLAs for TRC using current critical flows. In accordance with current DEQ guidance, staff used a default data point of 0.2 mg/L and the calculated WLAs to derive limits. A monthly average of 0.008 mg/L and a weekly average limit of 0.010 mg/L are proposed for this discharge. See **Attachment 9** for limit derivation.

As stated earlier, the facility will be installing ultraviolet (UV) disinfection units during the upgrade; thus, the monitoring requirements for Total Residual Chlorine will cease upon issuance of the Certificate to Operate.

3). Metals/Organics:

It is staff's best professional judgement that metals would not be present in appreciable amounts given the source of the wastewater; therefore, limits are not warranted.

d. Effluent Limitations and Monitoring, Outfall 001 – Conventional and Non-Conventional Pollutants

No changes to Dissolved Oxygen (D.O.), Biochemical Oxygen Demand-5 day (BOD_5), Total Suspended Solids (TSS), Ammonia and pH limitations are proposed.

Dissolved Oxygen and BOD_5 limitations are based on the original modeling conducted in June 1974 utilizing the statistically derived critical stream flows. Limitations were established to meet the water quality criteria for D.O. in the receiving stream (**Attachment 10**). To verify that the discharge was not impacting the receiving stream, the permittee conducted instream monitoring from July 2002 to October 2006. The data indicated that the receiving stream was not impacted by the discharge (**Attachment 11**). It is staff's best professional judgement that the limitations as set forth continue to protect the water quality with no impacts to the receiving stream.

It is staff's practice to equate the Total Suspended Solids limits with the BOD_5 limits since the two pollutants are closely related in terms of treatment of domestic sewage.

pH limitations are set at the water quality criteria.

e. Effluent Limitations and Monitoring Summary

The effluent limitations are presented in the following table. Limits were established for BOD_5, Total Suspended Solids, Ammonia as N, pH, Dissolved Oxygen and Total Residual Chlorine.

The limit for Total Suspended Solids is based on Best Professional Judgement.

The mass loading (kg/d) for monthly and weekly averages were calculated by multiplying the concentration values (mg/L), with the flow values (in MGD) and then a conversion factor of 3.785.

Sample Type and Frequency are in accordance with the recommendations in the VPDES Permit Manual.

The VPDES Permit Regulation at 9VAC25-31-30 and 40 CFR Part 133 require that the facility achieve at least 85% removal for BOD and TSS (or 65% for equivalent to secondary). The limits in this permit are water-quality-based effluent limits and result in greater than 85% removal.

18. Antibacksliding:

All limits in this permit are at least as stringent as those previously established. Backsliding does not apply to this reissuance.

19. Effluent Limitations/Monitoring Requirements:

Design flow is 0.006 MGD.

Effective Dates: During the period beginning with the permit's effective date and lasting until the expiration date.

PARAMETER	BASIS FOR LIMITS	DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
		Monthly Average	Weekly Average	Minimum	Maximum	Frequency	Sample Type
Flow (MGD)	NA	NL	NA	NA	NL	1/D	Estimate
pH	3	NA	NA	6.0 S.U.	9.0 S.U.	1/D	Grab
BOD_5	3,5	24 mg/L 0.55 kg/day	36 mg/L 0.82 kg/day	NA	NA	1/M	Grab
Total Suspended Solids (TSS)	2	24 mg/L 0.55 kg/day	36 mg/L 0.82 kg/day	NA	NA	1/M	Grab
Dissolved Oxygen (DO)	3,5	NA	NA	6.0 mg/L	NA	1/D	Grab
Ammonia, as N	3	12 mg/L	12 mg/L	NA	NA	1/M	Grab
Total Residual Chlorine (after contact tank)	2,4	NA	NA	1.0 mg/L	NA	1/D	Grab
Total Residual Chlorine (after dechlorination)	3	0.008 mg/L	0.010 mg/L	NA	NA	1/D	Grab

The basis for the limitations codes are:

1. Federal Effluent Requirements
2. Best Professional Judgement
3. Water Quality Standards
4. DEQ Disinfection Guidance
5. Stream Model – **Attachment 10**

MGD = Million gallons per day.
NA = Not applicable.
NL = No limit; monitor and report.
S.U. = Standard units.

1/D = Once every day.
1/M = Once every month.

Estimate = Reported flow is to be based on the technical evaluation of the sources contributing to the discharge.
Grab = An individual sample collected over a period of time not to exceed 15-minutes.

20. Other Permit Requirements:

Permit Section Part I.B. contains additional chlorine monitoring requirements, quantification levels and compliance reporting instructions.

These additional chlorine requirements are necessary per the Sewage Collection and Treatment Regulations at 9VAC25-70 and by the Water Quality Standards at 9VAC25-260-170. Minimum chlorine residual must be maintained at the exit of the chlorine contact tank to assure adequate disinfection. No more that 10% of the monthly test results for TRC at the exit of the chlorine contact tank shall be < 1.0 mg/L with any TRC < 0.6 mg/L considered a system failure. *E. coli* limits are defined in this section as well as monitoring requirements to take effect should an alternate means of disinfection be used.

9VAC25-31-190.L.4.c. requires an arithmetic mean for measurement averaging and 9VAC25-31-220.D. requires limits be imposed where a discharge has a reasonable potential to cause or contribute to an in-stream excursion of water quality criteria. Specific analytical methodologies for toxics are listed in this permit section as well as quantification levels (QLs) necessary to demonstrate compliance with applicable permit limitations or for use in future evaluations to determine if the pollutant has reasonable potential to cause or contribute to a violation. Required averaging methodologies are also specified.

21. Other Special Conditions:

a. 95% Capacity Reopener. The VPDES Permit Regulation at 9VAC25-31-200.B.4. requires all POTWs and PVOTWs develop and submit a plan of action to DEQ when the monthly average influent flow to their sewage treatment plant reaches 95% or more of the design capacity authorized in the permit for each month of any three consecutive month period. This facility is a POTW.

b. Indirect Dischargers. Required by VPDES Permit Regulation, 9VAC25-31-200 B.1. and B.2. for POTWs and PVOTWs that receive waste from someone other than the owner of the treatment works.

c. O&M Manual Requirement. Required by Code of Virginia §62.1-44.19; Sewage Collection and Treatment Regulations, 9VAC25-790; VPDES Permit Regulation, 9VAC25-31-190.E. The permittee shall maintain a current Operations and Maintenance (O&M) Manual. The permittee shall operate the treatment works in accordance with the O&M Manual and shall make the O&M Manual available to Department personnel for review upon request. Any changes in the practices and procedures followed by the permittee shall be documented in the O&M Manual within 90 days of the effective date of the changes. Non-compliance with the O&M Manual shall be deemed a violation of the permit.

d. CTC, CTO Requirement. The Code of Virginia § 62.1-44.19; Sewage Collection and Treatment Regulations, 9VAC25-790 requires that all treatment works treating wastewater obtain a Certificate to Construct prior to commencing construction and to obtain a Certificate to Operate prior to commencing operation of the treatment works.

e. Licensed Operator Requirement. The Code of Virginia at §54.1-2300 et seq. and the VPDES Permit Regulation at 9VAC25-31-200.C., and Rules and Regulations for Waterworks and Wastewater Works Operators (18VAC160-20-10 et seq.) requires licensure of operators. This facility requires a Class III operator.

f. Reliability Class. The Sewage Collection and Treatment Regulations at 9VAC25-790 require sewage treatment works to achieve a certain level of reliability in order to protect water quality and public health consequences in the event of component or system failure. Reliability means a measure of the ability of the treatment works to perform its designated function without failure or interruption of service. The facility is required to meet reliability Class II.

g. Sludge Reopener. The VPDES Permit Regulation at 9VAC25-31-220.C. requires all permits issued to treatment works treating domestic sewage (including sludge-only facilities) include a reopener clause allowing incorporation of any applicable standard for sewage sludge use or disposal promulgated under Section 405(d) of the CWA. The facility includes a sewage treatment works.

h. Sludge Use and Disposal. The VPDES Permit Regulation at 9VAC25-31-100.P; 220.B.2., and 420 through 720, and 40 CFR Part 503 require all treatment works treating domestic sewage to submit information on their sludge use and disposal practices and to meet specified standards for sludge use and disposal. The facility includes a treatment works treating domestic sewage.

i. TMDL Reopener. This special condition is to allow the permit to be reopened if necessary to bring it into compliance with any applicable TMDL that may be developed and approved for the receiving stream.

22. Permit Section Part II. Part II of the permit contains standard conditions that appear in all VPDES Permits. In general, these standard conditions address the responsibilities of the permittee, reporting requirements, testing procedures and records retention.

23. Changes to the Permit from the Previously Issued Permit:

a. Special Conditions:

- The Water Quality Reopener was removed with this issuance since it is not applicable.

b. Monitoring and Effluent Limitations: Not Applicable

24. Variances/Alternate Limits or Conditions: Not Applicable

25. Public Notice Information:

First Public Notice Date: 9 May 2012 Second Public Notice Date: 16 May 2012

Public Notice Information is required by 9VAC25-31-280 B. All pertinent information is on file and may be inspected and copied by contacting the: DEQ Northern Regional Office, 13901 Crown Court, Woodbridge, VA 22193; Telephone No. (703) 583-3873; Douglas.Frasier@deq.virginia.gov. See **Attachment 12** for a copy of the public notice document.

Persons may comment in writing or by email to the DEQ on the proposed permit action and may request a public hearing during the comment period. Comments shall include the name, address and telephone number of the writer and of all persons represented by the commenter/requester and shall contain a complete, concise statement of the factual basis for comments. Only those comments received within this period will be considered. The DEQ may decide to hold a public hearing, including another comment period, if public response is significant and there are substantial, disputed issues relevant to the permit. Requests for public hearings shall state 1) the reason why a hearing is requested; 2) a brief, informal statement regarding the nature and extent of the interest of the requester or of those represented by the requester, including how and to what extent such interest would be directly and adversely affected by the permit; and 3) specific references, where possible, to terms and conditions of the permit with suggested revisions. Following the comment period, the Board will make a determination regarding the proposed permit action. This determination will become effective, unless the DEQ grants a public hearing. Due notice of any public hearing will be given. The public may request an electronic copy of the draft permit and fact sheet or review the draft permit and application at the DEQ Northern Regional Office by appointment.

26. 303 (d) Listed Stream Segments and Total Max. Daily Loads (TMDL):

Downstream impairments for Fish Consumption Use and Aquatic Life Use have been noted. A PCB TMDL has been developed and approved; however, this facility was not assigned a wasteload allocation since it is not a likely source.

The Benthic TMDL is expected by 2018 for the Aquatic Life Use impairment.

27. Additional Comments:

Previous Board Action(s):	The Fairfax County School Board entered a Special Order by Consent, effective June 2010, for various effluent limitation excursions dating back to 2007. Previous attempts by the permittee to correct the problems at this facility were unsuccessful. The School Board is proceeding with another upgrade in order to comply consistently with the permit limitations. Construction is expected to be completed in the summer of 2013.
Staff Comments:	No comments were received.
Public Comment:	No comments were received during the public notice.
EPA Checklist:	The checklist can be found in **Attachment 13**.

Fact Sheet Attachments

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VA0023299
2012 Reissuance

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MEMORANDUM

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

NORTHERN REGIONAL OFFICE

13901 Crown Court — Woodbridge, VA 22193

TO: VPDES Reissuance File VA0023299

DATE: 24 February 2012

FROM: Douglas Frasier

SUBJECT: Update of flow frequencies for the 2012 reissuance
Gunston Elementary School Wastewater Treatment Plant

The Gunston Elementary School WWTP discharges to the South Branch Massey Creek near Woodbridge, Virginia. Stream flow frequencies are required at this site for use in the development of effluent limitations for this VPDES permit.

There is an USGS/DEQ operated gaging station on the Accotink Creek near Annandale, Virginia (#01654000). The referenced gaging station has a drainage area of 23.5 square miles. The NRO Water Resource Planners ascertained that the drainage area above the outfall for this facility is 0.09 square miles.

The flow frequencies shall be determined utilizing updated values (2006) at the aforementioned gaging station and adjusting them by proportional drainage areas. The high flow months are January – May

Accotink Creek near Annandale, VA (#01654000)

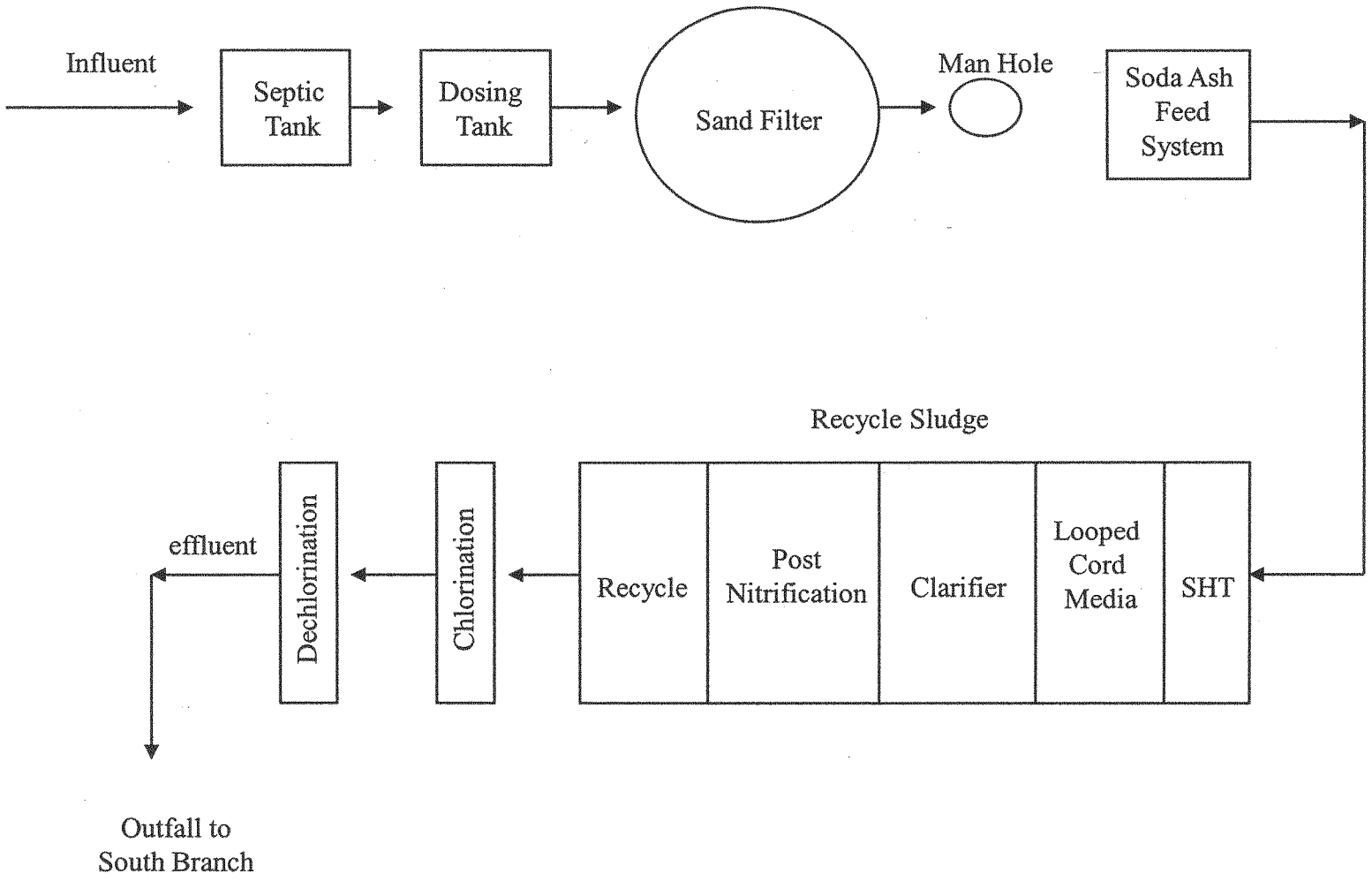
Drainage area	=	23.5 sq. mi.
1Q10	=	0.20 cfs
7Q10	=	0.41 cfs
30Q5	=	2.3 cfs
30Q10	=	1.5 cfs
High flow 30Q10	=	7.2 cfs
High flow 1Q10	=	3.7 cfs
High flow 7Q10	=	4.6 cfs

South Branch Massey Creek at Outfall 001

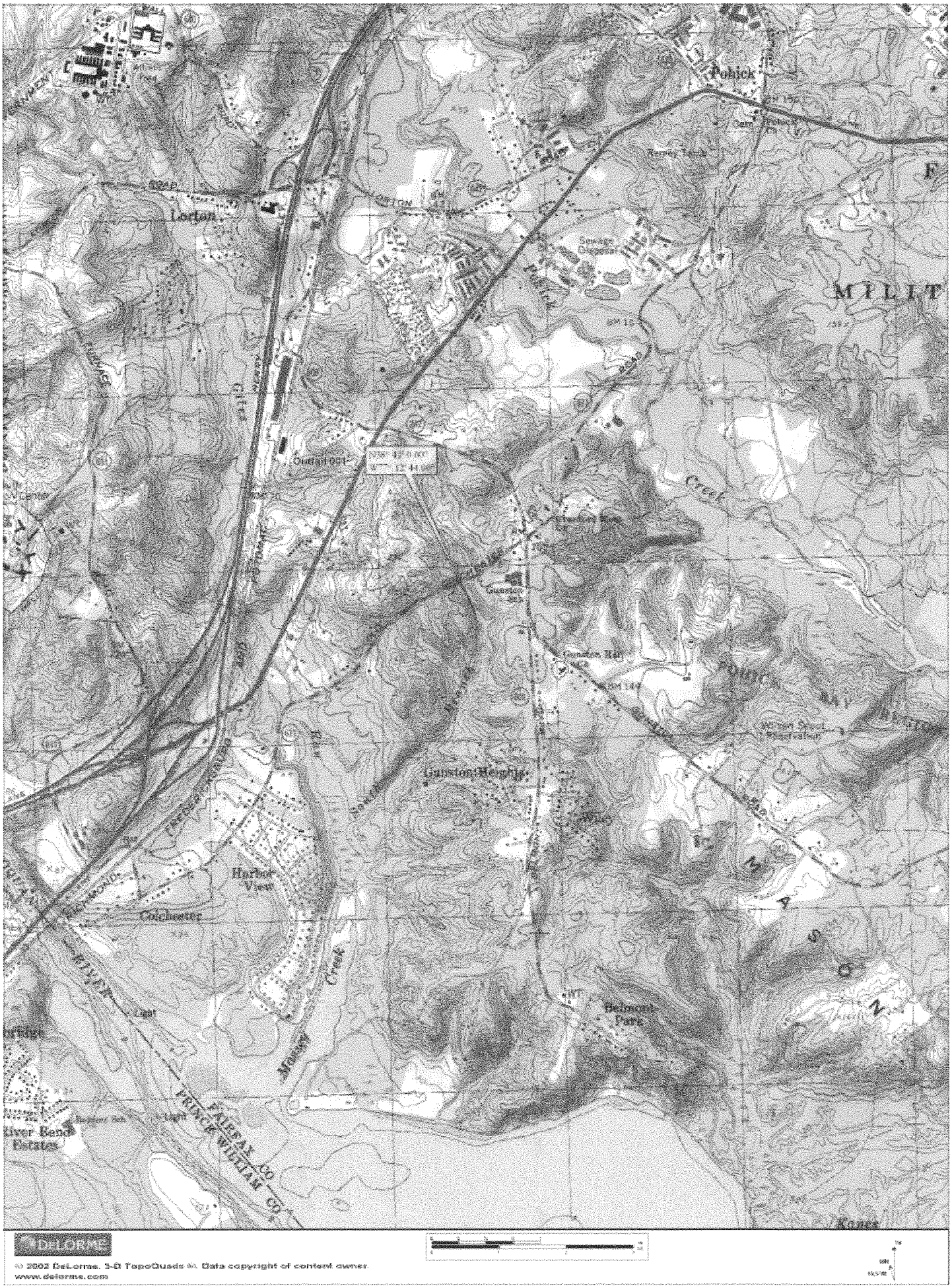
Drainage area	=	0.09 sq. mi.	
1Q10	=	0.0008 cfs	0.0005 MGD*
7Q10	=	0.0016 cfs	0.0010 MGD*
30Q5	=	0.0088 cfs	0.0057 MGD*
30Q10	=	0.0057 cfs	0.0037 MGD*
High flow 30Q10	=	0.0276 cfs	0.0178 MGD*
High flow 1Q10	=	0.0142 cfs	0.0092 MGD*
High flow 7Q10	=	0.0176 cfs	0.0114 MGD*

*Conversion to MGD = (cfs flow measurement) x (0.6463)

Gunston Elementary School Wastewater Treatment Plant



Attachment 2



Attachment 3

MEMORANDUM

TO: File

FROM: Douglas Frasier

DATE: 16 April 2012

SUBJECT: Site Visit – Gunston Elementary – VA0023299

This site visit was in conjunction with the upcoming permit reissuance. Those present were I, Dan Burstein – DEQ Enforcement Specialist and David Campbell – ESS. This facility serves an elementary school in Fairfax County with a population of approximately 500 students and faculty. The system is comprised of a septic tank, dosing tank, rotating arm sand filter, aerated media tank and chlorination/dechlorination. The facility was discharging at the time of the visit; effluent was clear.

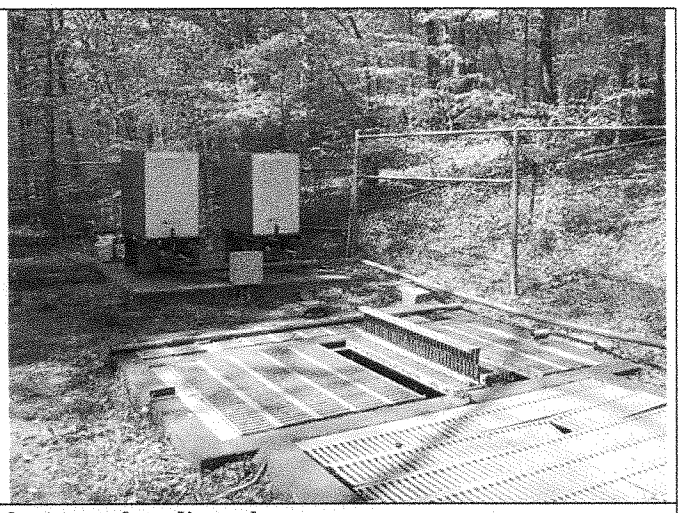
The facility will be removing the sand filter and replacing it with an equalization tank and tertiary filtration will be installed since disinfection will be switching to UV. Completion is scheduled for the summer of 2013.

There was little flow present in the receiving stream.

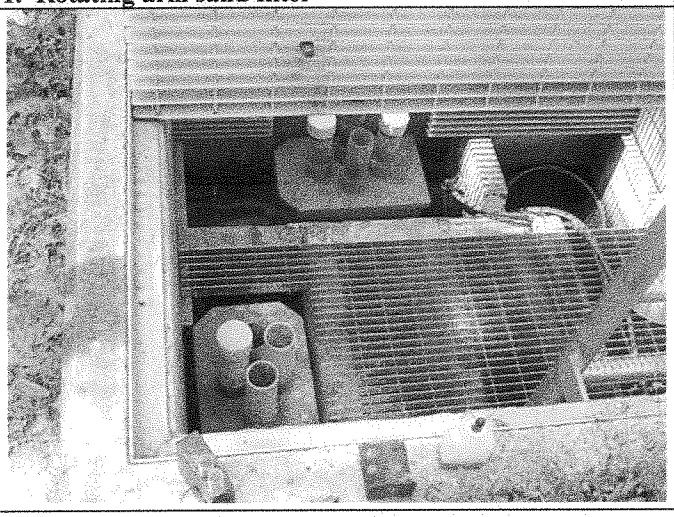
Attachment 4

Gunston Elementary
VA0023299
Site Visit
16 April 2012

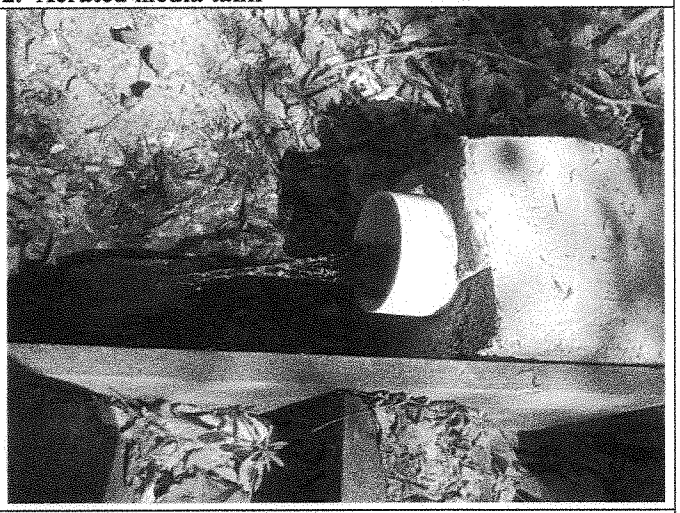
1. Rotating arm sand filter



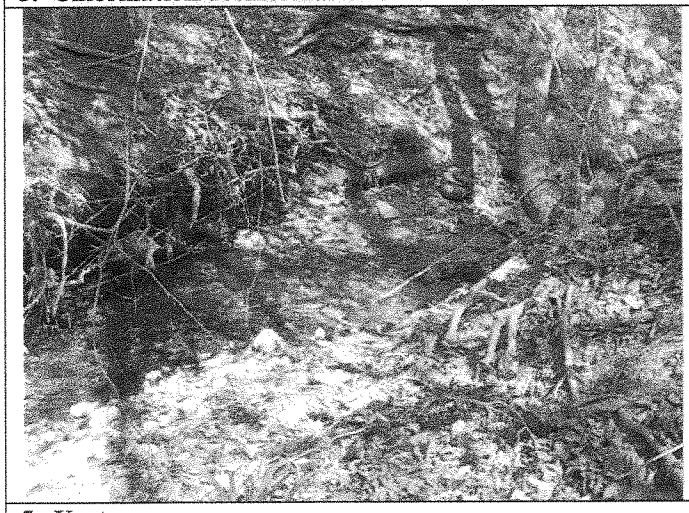
2. Aerated media tank



3. Chlorination/dechlorination unit



4. Outfall



5. Upstream

6. Downstream

To: Douglas Frasier
From: Jennifer Carlson

Date: January 27, 2012
Subject: Planning Statement for Gunston Elementary School STP
Permit No: VA0023299

Discharge Type: minor, municipal
Discharge Flow: 0.006 MGD

Receiving Stream: South Branch Massey Creek
Latitude / Longitude: 38° 41' 00" / 77° 12' 44"
Streamcode: 1aSOM
Waterbody: VAN-A25R
Water Quality Stds: Class III, Section 7, special standards b
Rivermile: 1.23
Drainage Area: 0.09 mi^2

1. Is there monitoring data for the receiving stream?

   There is not any monitoring data for South Branch Massey Creek.

   - If yes, please attach latest summary.
   - If no, where is the nearest downstream monitoring station.

   The nearest downstream DEQ water quality station with ambient data is Station 1aOCC002.47, located in Occoquan Bay, approximately 3.8 miles downstream from Outfall 001. The following is the summary for this segment of Occoquan Bay, as taken from the 2010 Integrated Report:

   Class II, Section 6, special stds. b, y.

   DEQ ambient and fish tissue/sediment monitoring 1aOCC002.47, at Buoy 6.

   The fish consumption use is categorized as impaired due to a Virginia Department of Health, Division of Health Hazards Control, PCB fish consumption advisory and fish tissue monitoring. A PCB TMDL for the tidal Potomac River watershed has been completed and approved. The recreation and wildlife uses are considered fully supporting.

   The submerged aquatic vegetation data is assessed as fully supporting the aquatic life use. For the open water aquatic life subuse; the thirty day mean is acceptable,

Attachment 5

however, the seven day mean and instantaneous levels have not been assessed. Additionally, sediment data revealed excursions above the Estuarine NOAA-based ER-M Sediment Screening Values (SV) of 0.71 ppm (dry weight) for mercury (Hg) in 2001 and of 7 ppb (dry weight) for DDT in 2004. Both of these exceedances were noted by observed effects for the aquatic life use.

2. Is the receiving stream on the current 303(d) list? No.

   - If yes, what is the impairment? N/A

   - Has the TMDL been prepared? N/A

   - If yes, what is the WLA for the discharge? N/A

   - If no, what is the schedule for the TMDL? N/A

3. If the answer to (2) above is no, is there a downstream 303(d) listed impairment?

   Yes, there are several downstream impairments listed in Occoquan Bay.

   - If yes, what is the impairment?

   Fish Consumption Use due to PCBs in fish tissue – this impairment begins approximately 1.23 miles downstream of Outfall 001, and covers the entire Occoquan Bay:

   > The fish consumption use is categorized as impaired due to a Virginia Department of Health, Division of Health Hazards Control, PCB fish consumption advisory. The advisory, dated 4/19/99 and modified 12/13/04 and 10/7/09, limits consumption of bullhead catfish, channel catfish less than eighteen inches long, largemouth bass, anadromous (coastal) striped bass, sunfish species, smallmouth bass, white catfish, white perch, gizzard shad, and yellow perch to no more than two meals per month. The advisory also bans the consumption of American eel, carp and channel catfish greater than eighteen inches long. The affected area includes the tidal portions of the following tributaries and embayments from the I-395 bridge (above the Woodrow Wilson Bridge) to the Potomac River Bridge at Route 301: Fourmile Run, Hunting Creek, Little Hunting Creek, Pohick Creek, Accotink Creek, Occoquan River, Neabsco Creek, Powells Creek, Quantico Creek, Chopawamsic Creek, Aquia Creek, and Potomac Creek.

   Aquatic Life Use due to estuarine bioassessments – this impairment begins approximately 3.46 miles downstream of Outfall 001:

   > Based on the Coastal 2000 weight of evidence analysis, utilizing bulk chemical data, toxicity test data, and an evaluation of benthic community conditions. Conclusions noted that some possibilities for benthic alteration could be a result of nutrient enrichment, habitat condition, habitat type, or a high energy environment.

However, toxic contaminants are an unlikely cause of the stressed community. The low diversity of benthic faunal taxa suggest organic/nutrient enrichment, but bottom dissolved oxygen at the time of sampling was not depressed (10.5 mg/L). Note that sediment total organic carbon was very low (<0.2%) and that the sample was almost all sand (83.3%). It is possible that toxics were present nearby, but the sediment sample collected did not indicate any contamination problem.

- Has a TMDL been prepared?

Yes, the Potomac River Watershed PCB TMDL was completed and approved by EPA on 10/31/2007.

The benthic TMDL has not yet been prepared

- Will the TMDL include the receiving stream?

The South Branch Massey Creek was not specifically included in the PCB TMDL, but all upstream facilities are taken into account during TMDL development.

- Is there a WLA for the discharge?

There is not a WLA for this discharge at this time.

- What is the schedule for the TMDL?

PCB TMDL – approved 10/31/2007

Benthic TMDL – due by 2018

4. Is there monitoring or other conditions that Planning/Assessment needs in the permit?

In support of the Potomac River PCB TMDL that was developed for the tidal Potomac River in 2007, this facility is a candidate for low-level PCB monitoring, based upon its designation as a minor municipal facility. Low-level PCB analysis uses EPA Method 1668B, which is capable of detecting low-level concentrations for all 209 PCB congeners. The planning staff has concluded however, that low-level PCB monitoring is not warranted, as this facility is not expected to discharge PCBs and this facility does not a have a continuous discharge.

There is a completed downstream TMDL for the aquatic life use impairment for the Chesapeake Bay. However, the Bay TMDL and the WLAs contained within the TMDL are not addressed in this planning statement.

5. Fact Sheet Requirements – Please provide information on other VPDES permits or VADEQ monitoring stations located within a 2 mile radius of the facility. In addition, please provide information on any drinking water intakes located within a 5 mile radius of the facility.

   Within a five mile radius of this facility, there is one public water supply intake. The Fairfax County Water Authority Intake is located in the Occoquan Reservoir. This intake is located upstream of the confluence of South Branch Massey Creek and the Occoquan Bay.

   Within a 2 mile radius of the facility, there are 7 DEQ monitoring stations:

   1. 1aGIL000.70 – ambient monitoring, Giles Run at Rt. 611 bridge (Old Colchester Rd)
   2. 1aGIL003.10 – ambient monitoring, Giles Run at Rt, 642 (Lorton Rd)
   3. 1aOCC003.82 – special study, Occoquan Bay, near mouth of Massey Creek
   4. 1aOCC004.52 – ambient monitoring, Occoquan Bay, near marker #15
   5. 1aPOH005.36 - ambient monitoring, Pohick Creek, at Rt. 1 (located in waterbody VAN-A16R)
   6. 1aPOH004.79 – ambient monitoring, Pohick Creek, at Rt. 611 (located in waterbody VAN-A16R)
   7. 1aPOH002.76 – special study, Pohick Bay, in the upper embayment (located in waterbody VAN-A16E)

   There are also 5 VPDES permitted facilities with a 2 mile radius:

   1. VA0090221 – George Mason University – Conference Center
   2. VA0090026 – Kim Young J STP
   3. VA0029416 – Harbor View STP
   4. VA0090638 – Covanta Fairfax Incorporated
   5. VA0025364 – Norman M Cole Jr Pollution Control Plant (located in waterbody VAN-A16R)

FRESHWATER
WATER QUALITY CRITERIA / WASTELOAD ALLOCATION ANALYSIS

Facility Name: Gunston Elementary School WWTP Permit No.: VA0023299

Receiving Stream: South Branch Massey Creek Version: OWP Guidance Memo 00-2011 (8/24/00)

Stream Information		
Mean Hardness (as CaCO3) =		mg/L
90% Temperature (Annual) =		deg C
90% Temperature (Wet season) =		deg C
90% Maximum pH =		SU
10% Maximum pH =		SU
Tier Designation (1 or 2) =	1	
Public Water Supply (PWS) Y/N? =	n	
Trout Present Y/N? =	n	
Early Life Stages Present Y/N? =	y	

Stream Flows		
1Q10 (Annual) =	0	MGD
7Q10 (Annual) =	0	MGD
30Q10 (Annual) =	0	MGD
1Q10 (Wet season) =	0	MGD
30Q10 (Wet season)	0	MGD
30Q5 =	0	MGD
Harmonic Mean =	0	MGD

Mixing Information		
Annual - 1Q10 Mix =	0	%
- 7Q10 Mix =	0	%
- 30Q10 Mix =	0	%
Wet Season - 1Q10 Mix =	0	%
- 30Q10 Mix =	0	%

Effluent Information		
Mean Hardness (as CaCO3) =	50	mg/L
90% Temp (Annual) =	25	deg C
90% Temp (Wet season) =	15	deg C
90% Maximum pH =	7.7	SU
10% Maximum pH =	7.5	SU
Discharge Flow =	0.006	MGD

Parameter	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				**Most Limiting Allocations**			
(ug/l unless noted)	Conc.	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	**Acute**	**Chronic**	**HH (PWS)**	**HH**
Acenapthene	5	--	--	na	9.9E+02	--	--	na	9.9E+02	--	--	--	--	--	--	--	--	--	--	na	9.9E+02
Acrolein	0	--	--	na	9.3E+00	--	--	na	9.3E+00	--	--	--	--	--	--	--	--	--	--	na	9.3E+00
Acrylonitrile [C]	0	--	--	na	2.5E+00	--	--	na	2.5E+00	--	--	--	--	--	--	--	--	--	--	na	2.5E+00
Aldrin [C]	0	3.0E+00	--	na	5.0E-04	3.0E+00	--	na	5.0E-04	--	--	--	--	--	--	--	--	3.0E+00	--	na	5.0E-04
Ammonia-N (mg/l) (Yearly)	0	1.44E+01	1.82E+00	na	--	1.44E+01	1.82E+00	na	--	--	--	--	--	--	--	--	--	1.44E+01	1.82E+00	na	--
Ammonia-N (mg/l) (High Flow)	0	1.44E+01	3.47E+00	na	--	1.44E+01	3.47E+00	na	--	--	--	--	--	--	--	--	--	1.44E+01	3.47E+00	na	--
Anthracene	0	--	--	na	4.0E+04	--	--	na	4.0E+04	--	--	--	--	--	--	--	--	--	--	na	4.0E+04
Antimony	0	--	--	na	6.4E+02	--	--	na	6.4E+02	--	--	--	--	--	--	--	--	--	--	na	6.4E+02
Arsenic	0	3.4E+02	1.5E+02	na	--	3.4E+02	1.5E+02	na	--	--	--	--	--	--	--	--	--	3.4E+02	1.5E+02	na	--
Barium	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Benzene [C]	0	--	--	na	5.1E+02	--	--	na	5.1E+02	--	--	--	--	--	--	--	--	--	--	na	5.1E+02
Benzidine [C]	0	--	--	na	2.0E-03	--	--	na	2.0E-03	--	--	--	--	--	--	--	--	--	--	na	2.0E-03
Benzo (a) anthracene [C]	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	na	1.8E-01
Benzo (b) fluoranthene [C]	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	na	1.8E-01
Benzo (k) fluoranthene [C]	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	na	1.8E-01
Benzo (a) pyrene [C]	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	na	1.8E-01
Bis2-Chloroethyl Ether [C]	0	--	--	na	5.3E+00	--	--	na	5.3E+00	--	--	--	--	--	--	--	--	--	--	na	5.3E+00
Bis2-Chloroisopropyl Ether	0	--	--	na	6.5E+04	--	--	na	6.5E+04	--	--	--	--	--	--	--	--	--	--	na	6.5E+04
Bis 2-Ethylhexyl Phthalate [C]	0	--	--	na	2.2E+01	--	--	na	2.2E+01	--	--	--	--	--	--	--	--	--	--	na	2.2E+01
Bromoform [C]	0	--	--	na	1.4E+03	--	--	na	1.4E+03	--	--	--	--	--	--	--	--	--	--	na	1.4E+03
Butylbenzylphthalate	0	--	--	na	1.9E+03	--	--	na	1.9E+03	--	--	--	--	--	--	--	--	--	--	na	1.9E+03
Cadmium	0	1.8E+00	6.6E-01	na	--	1.8E+00	6.6E-01	na	--	--	--	--	--	--	--	--	--	1.8E+00	6.6E-01	na	--
Carbon Tetrachloride [C]	0	--	--	na	1.6E+01	--	--	na	1.6E+01	--	--	--	--	--	--	--	--	--	--	na	1.6E+01
Chlordane [C]	0	2.4E+00	4.3E-03	na	8.1E-03	2.4E+00	4.3E-03	na	8.1E-03	--	--	--	--	--	--	--	--	2.4E+00	4.3E-03	na	8.1E-03
Chloride	0	8.6E+05	2.3E+05	na	--	8.6E+05	2.3E+05	na	--	--	--	--	--	--	--	--	--	8.6E+05	2.3E+05	na	--
TRC	0	1.9E+01	1.1E+01	na	--	1.9E+01	1.1E+01	na	--	--	--	--	--	--	--	--	--	1.9E+01	1.1E+01	na	--
Chlorobenzene	0	--	--	na	1.6E+03	--	--	na	1.6E+03	--	--	--	--	--	--	--	--	--	--	na	1.6E+03

Attachment 6

Parameter	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
(ug/l unless noted)	Conc.	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Chlorodibromomethane[C]	0	--	--	na	1.3E+02	--	--	na	1.3E+02	--	--	--	--	--	--	--	--	--	--	na	1.3E+02
Chloroform	0	--	--	na	1.1E+04	--	--	na	1.1E+04	--	--	--	--	--	--	--	--	--	--	na	1.1E+04
2-Chloronaphthalene	0	--	--	na	1.6E+03	--	--	na	1.6E+03	--	--	--	--	--	--	--	--	--	--	na	1.6E+03
2-Chlorophenol	0	--	--	na	1.5E+02	--	--	na	1.5E+02	--	--	--	--	--	--	--	--	--	--	na	1.5E+02
Chlorpyrifos	0	8.3E-02	4.1E-02	na	--	8.3E-02	4.1E-02	na	--	--	--	--	--	--	--	--	--	8.3E-02	4.1E-02	na	--
Chromium III	0	3.2E+02	4.2E+01	na	--	3.2E+02	4.2E+01	na	--	--	--	--	--	--	--	--	--	3.2E+02	4.2E+01	na	--
Chromium VI	0	1.6E+01	1.1E+01	na	--	1.6E+01	1.1E+01	na	--	--	--	--	--	--	--	--	--	1.6E+01	1.1E+01	na	--
Chromium, Total	0	--	--	1.0E+02	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Chrysene [C]	0	--	--	na	1.8E-02	--	--	na	1.8E-02	--	--	--	--	--	--	--	--	--	--	na	1.8E-02
Copper	0	7.0E+00	5.0E+00	na	--	7.0E+00	5.0E+00	na	--	--	--	--	--	--	--	--	--	7.0E+00	5.0E+00	na	--
Cyanide, Free	0	2.2E+01	5.2E+00	na	1.6E+04	2.2E+01	5.2E+00	na	1.6E+04	--	--	--	--	--	--	--	--	2.2E+01	5.2E+00	na	1.6E+04
DDD [C]	0	--	--	na	3.1E-03	--	--	na	3.1E-03	--	--	--	--	--	--	--	--	--	--	na	3.1E-03
DDE [C]	0	--	--	na	2.2E-03	--	--	na	2.2E-03	--	--	--	--	--	--	--	--	--	--	na	2.2E-03
DDT [C]	0	1.1E+00	1.0E-03	na	2.2E-03	1.1E+00	1.0E-03	na	2.2E-03	--	--	--	--	--	--	--	--	1.1E+00	1.0E-03	na	2.2E-03
Demeton	0	--	1.0E-01	na	--	--	1.0E-01	na	--	--	--	--	--	--	--	--	--	--	1.0E-01	na	--
Diazinon	0	1.7E-01	1.7E-01	na	--	1.7E-01	1.7E-01	na	--	--	--	--	--	--	--	--	--	1.7E-01	1.7E-01	na	--
Dibenz(a,h)anthracene [C]	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	na	1.8E-01
1,2-Dichlorobenzene	0	--	--	na	1.3E+03	--	--	na	1.3E+03	--	--	--	--	--	--	--	--	--	--	na	1.3E+03
1,3-Dichlorobenzene	0	--	--	na	9.6E+02	--	--	na	9.6E+02	--	--	--	--	--	--	--	--	--	--	na	9.6E+02
1,4-Dichlorobenzene	0	--	--	na	1.9E+02	--	--	na	1.9E+02	--	--	--	--	--	--	--	--	--	--	na	1.9E+02
3,3-Dichlorobenzidine[C]	0	--	--	na	2.8E-01	--	--	na	2.8E-01	--	--	--	--	--	--	--	--	--	--	na	2.8E-01
Dichlorobromomethane [C]	0	--	--	na	1.7E+02	--	--	na	1.7E+02	--	--	--	--	--	--	--	--	--	--	na	1.7E+02
1,2-Dichloroethane [C]	0	--	--	na	3.7E+02	--	--	na	3.7E+02	--	--	--	--	--	--	--	--	--	--	na	3.7E+02
1,1-Dichloroethylene	0	--	--	na	7.1E+03	--	--	na	7.1E+03	--	--	--	--	--	--	--	--	--	--	na	7.1E+03
1,2-trans-dichloroethylene	0	--	--	na	1.0E+04	--	--	na	1.0E+04	--	--	--	--	--	--	--	--	--	--	na	1.0E+04
2,4-Dichlorophenol	0	--	--	na	2.9E+02	--	--	na	2.9E+02	--	--	--	--	--	--	--	--	--	--	na	2.9E+02
2,4-Dichlorophenoxy acetic acid (2,4-D)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
1,2-Dichloropropane[C]	0	--	--	na	1.5E+02	--	--	na	1.5E+02	--	--	--	--	--	--	--	--	--	--	na	1.5E+02
1,3-Dichloropropene [C]	0	--	--	na	2.1E+02	--	--	na	2.1E+02	--	--	--	--	--	--	--	--	--	--	na	2.1E+02
Dieldrin [C]	0	2.4E-01	5.6E-02	na	5.4E-04	2.4E-01	5.6E-02	na	5.4E-04	--	--	--	--	--	--	--	--	2.4E-01	5.6E-02	na	5.4E-04
Diethyl Phthalate	0	--	--	na	4.4E+04	--	--	na	4.4E+04	--	--	--	--	--	--	--	--	--	--	na	4.4E+04
2,4-Dimethylphenol	0	--	--	na	8.5E+02	--	--	na	8.5E+02	--	--	--	--	--	--	--	--	--	--	na	8.5E+02
Dimethyl Phthalate	0	--	--	na	1.1E+06	--	--	na	1.1E+06	--	--	--	--	--	--	--	--	--	--	na	1.1E+06
Di-n-Butyl Phthalate	0	--	--	na	4.5E+03	--	--	na	4.5E+03	--	--	--	--	--	--	--	--	--	--	na	4.5E+03
2,4 Dinitrophenol	0	--	--	na	5.3E+03	--	--	na	5.3E+03	--	--	--	--	--	--	--	--	--	--	na	5.3E+03
2-Methyl-4,6-Dinitrophenol	0	--	--	na	2.8E+02	--	--	na	2.8E+02	--	--	--	--	--	--	--	--	--	--	na	2.8E+02
2,4-Dinitrotoluene [C]	0	--	--	na	3.4E+01	--	--	na	3.4E+01	--	--	--	--	--	--	--	--	--	--	na	3.4E+01
Dioxin 2,3,7,8-tetrachlorodibenzo-p-dioxin	0	--	--	na	5.1E-08	--	--	na	5.1E-08	--	--	--	--	--	--	--	--	--	--	na	5.1E-08
1,2-Diphenylhydrazine[C]	0	--	--	na	2.0E+00	--	--	na	2.0E+00	--	--	--	--	--	--	--	--	--	--	na	2.0E+00
Alpha-Endosulfan	0	2.2E-01	5.6E-02	na	8.9E+01	2.2E-01	5.6E-02	na	8.9E+01	--	--	--	--	--	--	--	--	2.2E-01	5.6E-02	na	8.9E+01
Beta-Endosulfan	0	2.2E-01	5.6E-02	na	8.9E+01	2.2E-01	5.6E-02	na	8.9E+01	--	--	--	--	--	--	--	--	2.2E-01	5.6E-02	na	8.9E+01
Alpha + Beta Endosulfan	0	2.2E-01	5.6E-02	--	--	2.2E-01	5.6E-02	--	--	--	--	--	--	--	--	--	--	2.2E-01	5.6E-02	--	--
Endosulfan Sulfate	0	--	--	na	8.9E+01	--	--	na	8.9E+01	--	--	--	--	--	--	--	--	--	--	na	8.9E+01
Endrin	0	8.6E-02	3.6E-02	na	6.0E-02	8.6E-02	3.6E-02	na	6.0E-02	--	--	--	--	--	--	--	--	8.6E-02	3.6E-02	na	6.0E-02
Endrin Aldehyde	0	--	--	na	3.0E-01	--	--	na	3.0E-01	--	--	--	--	--	--	--	--	--	--	na	3.0E-01

Parameter	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
(ug/l unless noted)	Conc.	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Ethylbenzene	0	--	--	na	2.1E+03	--	--	na	2.1E+03	--	--	--	--	--	--	--	--	--	--	na	2.1E+03
Fluoranthene	0	--	--	na	1.4E+02	--	--	na	1.4E+02	--	--	--	--	--	--	--	--	--	--	na	1.4E+02
Fluorene	0	--	--	na	5.3E+03	--	--	na	5.3E+03	--	--	--	--	--	--	--	--	--	--	na	5.3E+03
Foaming Agents	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Guthion	0	--	1.0E-02	na	--	--	1.0E-02	na	--	--	--	--	--	--	--	--	--	--	1.0E-02	na	--
Heptachlor [c]	0	5.2E-01	3.8E-03	na	7.9E-04	5.2E-01	3.8E-03	na	7.9E-04	--	--	--	--	--	--	--	--	5.2E-01	3.8E-03	na	7.9E-04
Heptachlor Epoxide[c]	0	5.2E-01	3.8E-03	na	3.9E-04	5.2E-01	3.8E-03	na	3.9E-04	--	--	--	--	--	--	--	--	5.2E-01	3.8E-03	na	3.9E-04
Hexachlorobenzene[c]	0	--	--	na	2.9E-03	--	--	na	2.9E-03	--	--	--	--	--	--	--	--	--	--	na	2.9E-03
Hexachlorobutadiene[c]	0	--	--	na	1.8E+02	--	--	na	1.8E+02	--	--	--	--	--	--	--	--	--	--	na	1.8E+02
Hexachlorocyclohexane Alpha-BHC[c]	0	--	--	na	4.9E-02	--	--	na	4.9E-02	--	--	--	--	--	--	--	--	--	--	na	4.9E-02
Hexachlorocyclohexane Beta-BHC[c]	0	--	--	na	1.7E-01	--	--	na	1.7E-01	--	--	--	--	--	--	--	--	--	--	na	1.7E-01
Hexachlorocyclohexane Gamma-BHC[c] (Lindane)	0	9.5E-01	na	na	1.8E+00	9.5E-01	--	na	1.8E+00	--	--	--	--	--	--	--	--	9.5E-01	--	na	1.8E+00
Hexachlorocyclopentadiene	0	--	--	na	1.1E+03	--	--	na	1.1E+03	--	--	--	--	--	--	--	--	--	--	na	1.1E+03
Hexachloroethane[c]	0	--	--	na	3.3E+01	--	--	na	3.3E+01	--	--	--	--	--	--	--	--	--	--	na	3.3E+01
Hydrogen Sulfide	0	--	2.0E+00	na	--	--	2.0E+00	na	--	--	--	--	--	--	--	--	--	--	2.0E+00	na	--
Indeno (1,2,3-cd) pyrene [c]	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	na	1.8E-01
Iron	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Isophorone[c]	0	--	--	na	9.6E+03	--	--	na	9.6E+03	--	--	--	--	--	--	--	--	--	--	na	9.6E+03
Kepone	0	--	0.0E+00	na	--	--	0.0E+00	na	--	--	--	--	--	--	--	--	--	--	0.0E+00	na	--
Lead	0	4.9E+01	5.6E+00	na	--	4.9E+01	5.6E+00	na	--	--	--	--	--	--	--	--	--	4.9E+01	5.6E+00	na	--
Malathion	0	--	1.0E-01	na	--	--	1.0E-01	na	--	--	--	--	--	--	--	--	--	--	1.0E-01	na	--
Manganese	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Mercury	0	1.4E+00	7.7E-01	- -	- -	1.4E+00	7.7E-01	- -	- -	--	--	--	--	--	--	--	--	1.4E+00	7.7E-01	- -	- -
Methyl Bromide	0	--	--	na	1.5E+03	--	--	na	1.5E+03	--	--	--	--	--	--	--	--	--	--	na	1.5E+03
Methylene Chloride [c]	0	--	--	na	5.9E+03	--	--	na	5.9E+03	--	--	--	--	--	--	--	--	--	--	na	5.9E+03
Methoxychlor	0	--	3.0E-02	na	--	--	3.0E-02	na	--	--	--	--	--	--	--	--	--	--	3.0E-02	na	--
Mirex	0	--	0.0E+00	na	--	--	0.0E+00	na	--	--	--	--	--	--	--	--	--	--	0.0E+00	na	--
Nickel	0	1.0E+02	1.1E+01	na	4.6E+03	1.0E+02	1.1E+01	na	4.6E+03	--	--	--	--	--	--	--	--	1.0E+02	1.1E+01	na	4.6E+03
Nitrate (as N)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Nitrobenzene	0	--	--	na	6.9E+02	--	--	na	6.9E+02	--	--	--	--	--	--	--	--	--	--	na	6.9E+02
N-Nitrosodimethylamine[c]	0	--	--	na	3.0E+01	--	--	na	3.0E+01	--	--	--	--	--	--	--	--	--	--	na	3.0E+01
N-Nitrosodiphenylamine[c]	0	--	--	na	6.0E+01	--	--	na	6.0E+01	--	--	--	--	--	--	--	--	--	--	na	6.0E+01
N-Nitrosodi-n-propylamine[c]	0	--	--	na	5.1E+00	--	--	na	5.1E+00	--	--	--	--	--	--	--	--	--	--	na	5.1E+00
Nonylphenol	0	2.8E+01	6.6E+00	--	--	2.8E+01	6.6E+00	na	--	--	--	--	--	--	--	--	--	2.8E+01	6.6E+00	na	--
Parathion	0	6.5E-02	1.3E-02	na	--	6.5E-02	1.3E-02	na	--	--	--	--	--	--	--	--	--	6.5E-02	1.3E-02	na	--
PCB Total[c]	0	--	1.4E-02	na	6.4E-04	--	1.4E-02	na	6.4E-04	--	--	--	--	--	--	--	--	--	1.4E-02	na	6.4E-04
Pentachlorophenol [c]	0	1.4E+01	1.1E+01	na	3.0E+01	1.4E+01	1.1E+01	na	3.0E+01	--	--	--	--	--	--	--	--	1.4E+01	1.1E+01	na	3.0E+01
Phenol	0	--	--	na	8.6E+05	--	--	na	8.6E+05	--	--	--	--	--	--	--	--	--	--	na	8.6E+05
Pyrene	0	--	--	na	4.0E+03	--	--	na	4.0E+03	--	--	--	--	--	--	--	--	--	--	na	4.0E+03
Radionuclides	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Gross Alpha Activity (pCi/L)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Beta and Photon Activity (mrem/yr)	0	--	--	na	4.0E+00	--	--	na	4.0E+00	--	--	--	--	--	--	--	--	--	--	na	4.0E+00
Radium 226 + 228 (pCi/L)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Uranium (ug/l)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--

Parameter	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				**Most Limiting Allocations**			
(ug/l unless noted)	Conc.	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	**Acute**	**Chronic**	**HH (PWS)**	**HH**
Selenium, Total Recoverable	0	2.0E+01	5.0E+00	na	4.2E+03	2.0E+01	5.0E+00	na	4.2E+03	--	--	--	--	--	--	--	--	**2.0E+01**	**5.0E+00**	**na**	**4.2E+03**
Silver	0	1.0E+00	--	na	--	1.0E+00	--	na	--	--	--	--	--	--	--	--	--	**1.0E+00**	**--**	**na**	**--**
Sulfate	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**--**
1,1,2,2-Tetrachloroethane[C]	0	--	--	na	4.0E+01	--	--	na	4.0E+01	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**4.0E+01**
Tetrachloroethylene[C]	0	--	--	na	3.3E+01	--	--	na	3.3E+01	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**3.3E+01**
Thallium	0	--	--	na	4.7E-01	--	--	na	4.7E-01	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**4.7E-01**
Toluene	0	--	--	na	6.0E+03	--	--	na	6.0E+03	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**6.0E+03**
Total dissolved solids	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**--**
Toxaphene [C]	0	7.3E-01	2.0E-04	na	2.8E-03	7.3E-01	2.0E-04	na	2.8E-03	--	--	--	--	--	--	--	--	**7.3E-01**	**2.0E-04**	**na**	**2.8E-03**
Tributyltin	0	4.6E-01	7.2E-02	na	--	4.6E-01	7.2E-02	na	--	--	--	--	--	--	--	--	--	**4.6E-01**	**7.2E-02**	**na**	**--**
1,2,4-Trichlorobenzene	0	--	--	na	7.0E+01	--	--	na	7.0E+01	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**7.0E+01**
1,1,2-Trichloroethane[C]	0	--	--	na	1.6E+02	--	--	na	1.6E+02	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**1.6E+02**
Trichloroethylene [C]	0	--	--	na	3.0E+02	--	--	na	3.0E+02	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**3.0E+02**
2,4,6-Trichlorophenol [C]	0	--	--	na	2.4E+01	--	--	na	2.4E+01	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**2.4E+01**
2-(2,4,5-Trichlorophenoxy) propionic acid (Silvex)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**--**
Vinyl Chloride[C]	0	--	--	na	2.4E+01	--	--	na	2.4E+01	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**2.4E+01**
Zinc	0	6.5E+01	6.6E+01	na	2.6E+04	6.5E+01	6.6E+01	na	2.6E+04	--	--	--	--	--	--	--	--	**6.5E+01**	**6.6E+01**	**na**	**2.6E+04**

Notes:

1. All concentrations expressed as micrograms/liter (ug/l), unless noted otherwise
2. Discharge flow is highest monthly average or Form 2C maximum for Industries and design flow for Municipals
3. Metals measured as Dissolved, unless specified otherwise
4. "C" indicates a carcinogenic parameter
5. Regular WLAs are mass balances (minus background concentration) using the % of stream flow entered above under Mixing Information.
   Antidegradation WLAs are based upon a complete mix.
6. Antideg. Baseline = (0.25(WQC - background conc.) + background conc.) for acute and chronic
   = (0.1(WQC - background conc.) + background conc.) for human health
7. WLAs established at the following stream flows: 1Q10 for Acute, 30Q10 for Chronic Ammonia, 7Q10 for Other Chronic, 30Q5 for Non-carcinogens and Harmonic Mean for Carcinogens. To apply mixing ratios from a model set the stream flow equal to (mixing ratio - 1), effluent flow equal to 1 and 100% mix.

Metal	Target Value (SSTV)
Antimony	6.4E+02
Arsenic	9.0E+01
Barium	na
Cadmium	3.9E-01
Chromium III	2.5E+01
Chromium VI	6.4E+00
Copper	2.8E+00
Iron	na
Lead	3.4E+00
Manganese	na
Mercury	4.6E-01
Nickel	6.8E+00
Selenium	3.0E+00
Silver	4.2E-01
Zinc	2.6E+01

Note: do not use QL's lower than the minimum QL's provided in agency guidance

2/16/2012 3:22:06 PM

Facility = Gunston Elementary School WWTP
Chemical = Ammonia
Chronic averaging period = 30
WLAa = 14.4
WLAc =
Q.L. = 0.2
# samples/mo. = 1
# samples/wk. = 1

Summary of Statistics:

observations = 1
Expected Value = 9
Variance = 29.16
C.V. = 0.6
97th percentile daily values = 21.9007
97th percentile 4 day average = 14.9741
97th percentile 30 day average= 10.8544
< Q.L. = 0
Model used = BPJ Assumptions, type 2 data

A limit is needed based on Acute Toxicity
Maximum Daily Limit = 14.4
Average Weekly limit = 14.4
Average Monthly LImit = 14.4

The data are:

9

FACILITY:
VPDES #:

Ammonia Calculation - Acute Ammonia Criteria for Freshwater

DATA ENTRY:->	Temperature	pH	TIER INFORMATION:
	20	7.50	

FT
FT=10^((.03)(20-T) = 1.0000000

FPH
FPH=1 if 8.0<=pH<=9.0 = NA
FPH=((1+10^(7.4-pH))/1.25 if 6.5<=pH<8.0 =
FPH= 1.435462588 1.4354626

Acute Criteria Concentration=.52/FT/FPH/2 = 0.1811263

Conversion from un-ionized to Total Ammonia can be calculated by using the following formulas:
Total Acute Ammonia Criteria = Calculated un-ionized ammonia criteria divided by fraction of un-ionized Ammonia
Where: Fraction of un-ionized ammonia = 1/(10^(pKa-pH) +1) Fraction= 0.0124057
where: pKa = 0.09018 + (2729.92/273.2 + temperature 'C,) pKa = 9.4009576
Total Acute Ammonia Criteria = Calculated un-ionized Ammonia Criteria divided by fraction of un-ionized Ammonia
Total Acute Ammonia Criteria = 0.1811263 / 0.012405691 = Total Ammonia = 14.6002576 mg

Total Ammonia is then converted to Ammonia-Nitrogen.
TOTAL ACUTE N-NH3 14.6002576 X .824 12.0306122 MG/L = 12.03

Attachment 8

2/17/2012 10:53:14 AM

Facility = Gunston Elementary School WWTP
Chemical = Chlorine
Chronic averaging period = 4
WLAa = 0.019
WLAc = 0.011
Q.L. = 0.1
# samples/mo. = 28
# samples/wk. = 7

Summary of Statistics:

observations = 1
Expected Value = .2
Variance = .0144
C.V. = 0.6
97th percentile daily values = .486683
97th percentile 4 day average = .332758
97th percentile 30 day average= .241210
< Q.L. = 0
Model used = BPJ Assumptions, type 2 data

A limit is needed based on Chronic Toxicity
Maximum Daily Limit = 1.60883226245855E-02
Average Weekly limit = 9.8252545713861E-03
Average Monthly LImit = 8.02152773888032E-03

The data are:

0.2

MEMORANDUM

2111 North Hamilton Street

State Water Control Board
P.O. Box 11143

Richmond, VA. 23230

VA0022179

SUBJECT: Fairfax County - Gunston School NPDES - SAA

TO: George Whitaker

FROM: Gary N. Moore

DATE: June 27, 1974

COPIES: Al Pollock, (BAT), John Hopkins (NRO)

Quad used: Fort Belvoir

Q of plant = .006 MGD, 24 mg/l BOD_5

Discharge is to South Branch, a tributary of Massey Creek.

X from POD to Massey Creek = 1.2 mi

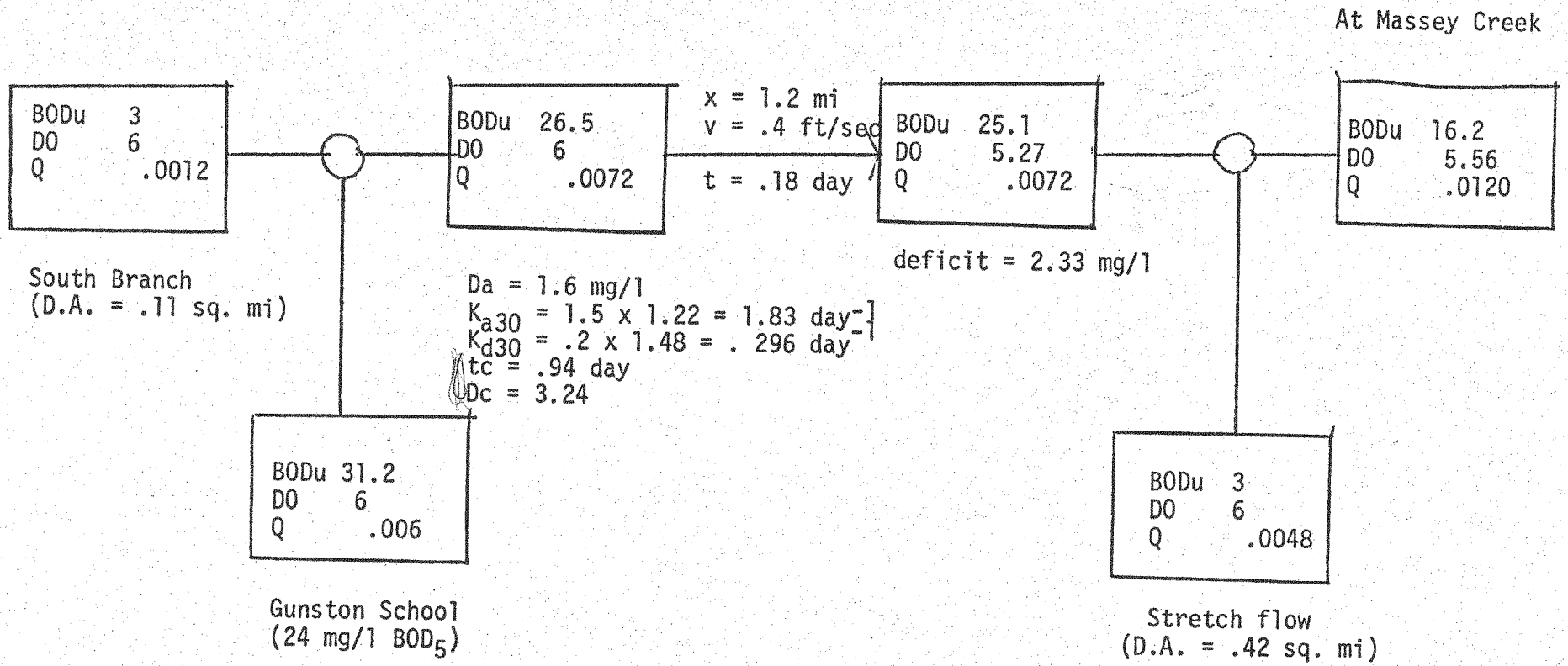
Critical discharge = .018 cfs/sq. mi. (Occoquan River near Occoquan)

D.A. above POD = .11 sq. mi.

D.A. between POD and confluence of South Branch with Massey Creek = .42 sq. mi.

GNM/by

Attachment 10



24 mg/l BOD_5 (6.0 mg/l D.O.) in effluent meets stream standards.

STATE WATER CONTROL BOARD
NRO

SUBJECT: **CHLORINE MASS BALANCE:** 'Gunston Elem. School/ Fairfax Co.

TO: PERMIT FILE
FROM: JC
DATE: December 1, 1986
COPIES:

The effluent is discharged to South Branch. The Q7-10 for this stream is 0.0012 MGD. The wastewater treatment plant design flow is 0.006 MGD.

*The allowable Cl_2 discharge value $= \frac{(0.006 + 0.0012)(0.011 \text{ mg/l})}{(0.006)}$

$= 0.013$ mg/l

ADDITIONAL INFORMATION: Q7-10 at discharge point taken from June, 1974 stream model.

0.013 (A.) Alternative disinfection or dechlorination to mg/l must be provided.

B. No dechlorination is required.

* Use decay calculation if the dishcarge is to a dry ditch.

Gunston Elementary School VA0023299

Instream Monitoring
29 July 2002 - 13 October 2006

Date	D.O.	pH	Temp	Ammonia
29-Jul-2002	4.63	7	22.7	0.5
27-Aug-2002	2.61	5.83	22.7	0.11
30-Sep-2002	3.15	7	20.7	0.1
28-Oct-2002	3.86	7	15.4	0.17
26-Nov-2002	4.13	7	12.5	1.73
30-Dec-2002	5.27	7	8.7	1.67
29-Jan-2003	4.06	7	4.1	0.95
27-Feb-2003	7.41	7	2.7	1.91
19-Mar-2003	5.86	7	10.7	5.92
28-Mar-2003	6.87	7	9.3	1.3
21-Apr-2003	7.68	7	13.1	0.29
20-May-2003	6.71	7	17.6	0.59
11-Jun-2003	7.25	7	23.4	0.79
29-Jul-2003	4.12	6.5	21.5	0.52
27-Aug-2003	4.79	6.5	23.6	0.86
25-Sep-2003	5.27	7	21.1	0.98
22-Oct-2003	4.67	7	18.3	4.38
12-Nov-2003	9.71	4	15.1	1.5
22-Dec-2003	10.9	6.5	12.1	1.31
6-Jan-2004	11.43	6.5	6.3	1.19
4-Feb-2004	0.49	6.5	6.6	2.34
1-Mar-2004	12.23	6.5	7.2	0.84
6-Apr-2004	10.58	6	10.7	0.29
5-May-2004	9.38	6.5	12.2	1.55
1-Jun-2004	9.24	6.5	20.2	0.1
1-Jul-2004	8.81	7	21.1	0.29
24-Aug-2004	7.83	6	21.1	0.66
1-Sep-2004	7.31	6.5	20.6	0.52
3-Nov-2004	7.28	6.8	16.2	0.75
1-Dec-2004	10.14	6.8	11.4	1.82
6-Jan-2005	8.4	6.7	8	1.97
7-Feb-2005	14.2	6.7	4.8	1.69
8-Mar-2005	9.06	6.7	8.8	0.41
14-Apr-2005	10.81	6.7	14.4	1.83
5-May-2005	9.86	6.7	12.2	0.53
7-Jun-2005	9.06	6.7	18.4	0.1
7-Jul-2005	7.82	6.6	22.2	0.2
23-Aug-2005	8.44	6.7	22.6	0.11
21-Sep-2005	6.77	7.04	19.3	20.2
18-Oct-2005	7.19	6.5	17.1	3.06
1-Nov-2005	7.36	6.5	16.2	0.23
5-Dec-2005	9.06	7	9.6	0.1
12-Jan-2006	10.1	7	9	2.91

Attachment 11

Date	D.O.	pH	Temp	Ammonia
15-Mar-2006	9.7	6	10.3	3.21
25-Apr-2006	8.22	6	15.8	0.16
24-May-2006	7.07	6	11.9	1.48
28-Jul-2006	6.82	7	26.7	0.1
6-Sep-2006	7.38	6.2	18.6	0.34
13-Oct-2006	7.46	6.8	15.3	0.18

Min:	0.49	4	2.7	0.1
Max:	14.2	7.04	26.7	20.2
Avg:	7.52	6.62	14.90	1.53
Median:	7.41	6.7	15.3	0.79
90th percentile:	10.63	7.00	22.62	2.94

Public Notice – Environmental Permit

PURPOSE OF NOTICE: To seek public comment on a draft permit from the Department of Environmental Quality that will allow the release of treated wastewater into a water body in Fairfax County, Virginia.

PUBLIC COMMENT PERIOD: May 10, 2012 to 5:00 p.m. on June 8, 2012

PERMIT NAME: Virginia Pollutant Discharge Elimination System Permit – Wastewater issued by DEQ, under the authority of the State Water Control Board

APPLICANT NAME, ADDRESS AND PERMIT NUMBER: Fairfax County Schools
5025 Sideburn Road, Fairfax, VA 22032
VA0023299

NAME AND ADDRESS OF FACILITY: Gunston Elementary School WWTP
10100 Gunston Road, Fairfax, VA 22079

PROJECT DESCRIPTION: Fairfax County Schools has applied for a reissuance of a permit for the public Gunston Elementary School Wastewater Treatment Plant. The applicant proposes to release treated sewage wastewaters from a public school at a rate of 0.006 million gallons per day into a water. Sludge from the treatment process will be transported to the Noman M. Cole Pollution Control Plant (VA0025364) for further treatment and final disposal. The facility proposes to release treated sewage in the South Branch Massey Creek in Fairfax County in the Potomac River watershed. A watershed is the land area drained by a river and its incoming streams. The permit will limit the following pollutants to amounts that protect water quality: pH, Biochemical Oxygen Demand, Total Suspended Solids, Dissolved Oxygen, Ammonia as N and Total Residual Chlorine.

HOW TO COMMENT AND/OR REQUEST A PUBLIC HEARING: DEQ accepts comments and requests for public hearing by e-mail, fax or postal mail. All comments and requests must be in writing and be received by DEQ during the comment period. Submittals must include the names, mailing addresses and telephone numbers of the commenter/requester and of all persons represented by the commenter/requester. A request for public hearing must also include: 1) The reason why a public hearing is requested. 2) A brief, informal statement regarding the nature and extent of the interest of the requester or of those represented by the requester, including how and to what extent such interest would be directly and adversely affected by the permit. 3) Specific references, where possible, to terms and conditions of the permit with suggested revisions. A public hearing may be held, including another comment period, if public response is significant, based on individual requests for a public hearing, and there are substantial, disputed issues relevant to the permit.

CONTACT FOR PUBLIC COMMENTS, DOCUMENT REQUESTS AND ADDITIONAL INFORMATION: The public may review the documents at the DEQ-Northern Regional Office by appointment or may request electronic copies of the draft permit and fact sheet.

Name: Douglas Frasier
Address: DEQ-Northern Regional Office, 13901 Crown Court, Woodbridge, VA 22193
Phone: (703) 583-3873 E-mail: Douglas.Frasier@deq.virginia.gov Fax: (703) 583-3821

State "Transmittal Checklist" to Assist in Targeting
Municipal and Industrial Individual NPDES Draft Permits for Review

Part I. State Draft Permit Submission Checklist

In accordance with the MOA established between the Commonwealth of Virginia and the United States Environmental Protection Agency, Region III, the Commonwealth submits the following draft National Pollutant Discharge Elimination System (NPDES) permit for Agency review and concurrence.

Facility Name:	Gunston Elementary School WWTP
NPDES Permit Number:	VA0023299
Permit Writer Name:	Douglas Frasier
Date:	17 February 2012

Major [ ] **Minor** [X] **Industrial** [ ] **Municipal** [X]

I.A. Draft Permit Package Submittal Includes:	**Yes**	**No**	**N/A**
1. Permit Application?	X		
2. Complete Draft Permit (for renewal or first time permit – entire permit, including boilerplate information)?	X		
3. Copy of Public Notice?	X		
4. Complete Fact Sheet?	X		
5. A Priority Pollutant Screening to determine parameters of concern?			X
6. A Reasonable Potential analysis showing calculated WQBELs?	X		
7. Dissolved Oxygen calculations?			X
8. Whole Effluent Toxicity Test summary and analysis?			X
9. Permit Rating Sheet for new or modified industrial facilities?			X

I.B. Permit/Facility Characteristics	**Yes**	**No**	**N/A**
1. Is this a new or currently unpermitted facility?		X	
2. Are all permissible outfalls (including combined sewer overflow points, non-process water and storm water) from the facility properly identified and authorized in the permit?	X		
3. Does the fact sheet **or** permit contain a description of the wastewater treatment process?	X		
4. Does the review of PCS/DMR data for at least the last 3 years indicate significant non-compliance with the existing permit?		X	
5. Has there been any change in streamflow characteristics since the last permit was developed?		X	
6. Does the permit allow the discharge of new or increased loadings of any pollutants?		X	
7. Does the fact sheet **or** permit provide a description of the receiving water body(s) to which the facility discharges, including information on low/critical flow conditions and designated/existing uses?	X		
8. Does the facility discharge to a 303(d) listed water? **Downstream impairment**		X	
a. Has a TMDL been developed and approved by EPA for the impaired water?	X		
b. Does the record indicate that the TMDL development is on the State priority list and will most likely be developed within the life of the permit?			X
c. Does the facility discharge a pollutant of concern identified in the TMDL or 303(d) listed water?		X	
9. Have any limits been removed, or are any limits less stringent, than those in the current permit?		X	
10. Does the permit authorize discharges of storm water?		X	
11. Has the facility substantially enlarged or altered its operation or substantially increased its flow or production?		X	
12. Are there any production-based, technology-based effluent limits in the permit?	X		
13. Do any water quality-based effluent limit calculations differ from the State's standard policies or procedures?		X	
14. Are any WQBELs based on an interpretation of narrative criteria?	X		

Attachment 13

I.B. Permit/Facility Characteristics – cont.	Yes	No	N/A
15. Does the permit incorporate any variances or other exceptions to the State's standards or regulations?		X	
16. Does the permit contain a compliance schedule for any limit or condition?		X	
17. Is there a potential impact to endangered/threatened species or their habitat by the facility's discharge(s)?	X		
18. Have impacts from the discharge(s) at downstream potable water supplies been evaluated?	X		
19. Is there any indication that there is significant public interest in the permit action proposed for this facility?		X	
20. Have previous permit, application, and fact sheet been examined?	X		

Part II. NPDES Draft Permit Checklist

Region III NPDES Permit Quality Checklist – for POTWs
(To be completed and included in the record only for POTWs)

II.A. Permit Cover Page/Administration	Yes	No	N/A
1. Does the fact sheet or permit describe the physical location of the facility, including latitude and longitude (not necessarily on permit cover page)?	X		
2. Does the permit contain specific authorization-to-discharge information (from where to where, by whom)?	X		

II.B. Effluent Limits – General Elements	Yes	No	N/A
1. Does the fact sheet describe the basis of final limits in the permit (e.g., that a comparison of technology and water quality-based limits was performed, and the most stringent limit selected)?	X		
2. Does the fact sheet discuss whether "antibacksliding" provisions were met for any limits that are less stringent than those in the previous NPDES permit?			X

II.C. Technology-Based Effluent Limits (POTWs)	Yes	No	N/A
1. Does the permit contain numeric limits for ALL of the following: BOD (or alternative, e.g., CBOD, COD, TOC), TSS, and pH?	X		
2. Does the permit require at least 85% removal for BOD (or BOD alternative) and TSS (or 65% for equivalent to secondary) consistent with 40 CFR Part 133?	X		
a. If no, does the record indicate that application of WQBELs, or some other means, results in more stringent requirements than 85% removal or that an exception consistent with 40 CFR 133.103 has been approved?			X
3. Are technology-based permit limits expressed in the appropriate units of measure (e.g., concentration, mass, SU)?	X		
4. Are permit limits for BOD and TSS expressed in terms of both long term (e.g., average monthly) and short term (e.g., average weekly) limits?	X		
5. Are any concentration limitations in the permit less stringent than the secondary treatment requirements (30 mg/l BOD5 and TSS for a 30-day average and 45 mg/l BOD5 and TSS for a 7-day average)?		X	
a. If yes, does the record provide a justification (e.g., waste stabilization pond, trickling filter, etc.) for the alternate limitations?			X

II.D. Water Quality-Based Effluent Limits	Yes	No	N/A
1. Does the permit include appropriate limitations consistent with 40 CFR 122.44(d) covering State narrative and numeric criteria for water quality?	X		
2. Does the fact sheet indicate that any WQBELs were derived from a completed and EPA approved TMDL?			X
3. Does the fact sheet provide effluent characteristics for each outfall?	X		
4. Does the fact sheet document that a "reasonable potential" evaluation was performed?	X		
a. If yes, does the fact sheet indicate that the "reasonable potential" evaluation was performed in accordance with the State's approved procedures?	X		
b. Does the fact sheet describe the basis for allowing or disallowing in-stream dilution or a mixing zone?			X
c. Does the fact sheet present WLA calculation procedures for all pollutants that were found to have "reasonable potential"?	X		
d. Does the fact sheet indicate that the "reasonable potential" and WLA calculations accounted for contributions from upstream sources (i.e., do calculations include ambient/background concentrations)?			X
e. Does the permit contain numeric effluent limits for all pollutants for which "reasonable potential" was determined?	X		
5. Are all final WQBELs in the permit consistent with the justification and/or documentation provided in the fact sheet?	X		

II.D. Water Quality-Based Effluent Limits – cont.	Yes	No	N/A
6. For all final WQBELs, are BOTH long-term AND short-term effluent limits established?	X		
7. Are WQBELs expressed in the permit using appropriate units of measure (e.g., mass, concentration)?	X		
8. Does the record indicate that an "antidegradation" review was performed in accordance with the State's approved antidegradation policy?	X		

II.E. Monitoring and Reporting Requirements	Yes	No	N/A
1. Does the permit require at least annual monitoring for all limited parameters and other monitoring as required by State and Federal regulations?	X		
a. If no, does the fact sheet indicate that the facility applied for and was granted a monitoring waiver, AND, does the permit specifically incorporate this waiver?			
2. Does the permit identify the physical location where monitoring is to be performed for each outfall?		X	
3. Does the permit require at least annual influent monitoring for BOD (or BOD alternative) and TSS to assess compliance with applicable percent removal requirements?		X	
4. Does the permit require testing for Whole Effluent Toxicity?		X	

II.F. Special Conditions	Yes	No	N/A
1. Does the permit include appropriate biosolids use/disposal requirements?			X
2. Does the permit include appropriate storm water program requirements?			X

II.F. Special Conditions – cont.	Yes	No	N/A
3. If the permit contains compliance schedule(s), are they consistent with statutory and regulatory deadlines and requirements?			X
4. Are other special conditions (e.g., ambient sampling, mixing studies, TIE/TRE, BMPs, special studies) consistent with CWA and NPDES regulations?	X		
5. Does the permit allow/authorize discharge of sanitary sewage from points other than the POTW outfall(s) or CSO outfalls [i.e., Sanitary Sewer Overflows (SSOs) or treatment plant bypasses]?		X	
6. Does the permit authorize discharges from Combined Sewer Overflows (CSOs)?		X	
a. Does the permit require implementation of the "Nine Minimum Controls"?			X
b. Does the permit require development and implementation of a "Long Term Control Plan"?			X
c. Does the permit require monitoring and reporting for CSO events?			X
7. Does the permit include appropriate Pretreatment Program requirements?			X

II.G. Standard Conditions	Yes	No	N/A
1. Does the **permit** contain all 40 CFR 122.41 standard conditions or the State equivalent (or more stringent) conditions?	X		

List of Standard Conditions – 40 CFR 122.41

Duty to comply	Property rights	Reporting Requirements
Duty to reapply	Duty to provide information	Planned change
Need to halt or reduce activity not a defense	Inspections and entry	Anticipated noncompliance
	Monitoring and records	Transfers
Duty to mitigate	Signatory requirement	Monitoring reports
Proper O & M	Bypass	Compliance schedules
Permit actions	Upset	24-Hour reporting
		Other non-compliance

2. Does the permit contain the additional standard condition (or the State equivalent or more stringent conditions) for POTWs regarding notification of new introduction of pollutants and new industrial users [40 CFR 122.42(b)]?	X		

Part III. Signature Page

Based on a review of the data and other information submitted by the permit applicant, and the draft permit and other administrative records generated by the Department/Division and/or made available to the Department/Division, the information provided on this checklist is accurate and complete, to the best of my knowledge.

Name	Douglas Frasier
Title	Water Permit Writer, Senior II
Signature	
Date	17 February 2012